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few trees, with very imperfect shade. In the evening we marched eight miles to Suleimániyeh, by a good road, through a tolerably level, well-cultivated country. Suleimániyeh is a small town, of about 1000 houses, the capital of a district of the same name, in the centre of which it is placed, and which extends forty miles in every direction. It is possessed by the Kurd tribe of Bebah, who are esteemed excellent cavalry, and have many horses. I saw a mare for which the owner wanted 500 tó máns; and I have no doubt, that if even so large a price were offered him, he would be very reluctant to take it. The town is situated at the end of a plain under some hills: it contains few good houses, many of which are in ruins; and has a large and well supplied bázár of fruit, meat, and vegetables.

From Suleimániyeh I travelled in a N.N.E. direction about 200 miles, by a well-known road, to Sardasht, Láhiján, Šó-úk Búlák, and by Marághah to Tabriz.

Tehrán, Feb. 12, 1837.

V.—*Memoranda to accompany a Sketch of part of Mázanderán, &c., in April, 1836.* By E. D'ARCY TODD, Major, serving in Persia. Communicated by JOHN BACKHOUSE, Esq.

THIS sketch of Mázanderán on the scale of $\frac{1}{380100}$, or of six British miles to an inch, was made in the month of April, 1836, from observations taken with a Schmalcalder's compass, the distances being calculated from the pace of a horse walking on an average three and three-quarters statute miles an hour.

The lines of road here followed were corrected by frequent magnetic bearings* of the peak of Demávend, which is visible from Tehrán, and from most of the principal points in the routes from that city, through Mázanderán, to the southern shore of the Caspian.

Wheeled carriages are not used in any part of the road here laid down.

On quitting Tehrán in an E.N.E. direction, at fifteen miles the Jáj-rúd river is crossed by a ford; but from the month of April to the middle of June, when the mountain snows are melting, it is often so much swollen that laden mules make a circuit of several miles to cross the river by a bridge, said to be about three miles above the caravanserai at the ford.

From Jáj-rúd to Demávend, a distance of twenty-five miles, the road is crossed by several small streams, upon each of which

* The variation of the compass at Tehrán in 1837 was 2° westerly.—ED.

is situated a village surrounded by cultivation. A range of hills sprinkled with snow bounds the view to the south, at the distance of about ten miles. Demávend is a large village pleasantly situated in a high, rich, and well-watered valley, the streams flowing to the southward.* From Demávend to Serbendán† fifteen miles: the road passes through several well-supplied villages; but from that place to Fírúz-kúh‡ no supplies are to be had, except in small quantities at the wretched huts which are called the caravanserais of Arú, Dalí-chäi,§ and Amín-âbád|| At Arú the road gradually inclines towards the range of hills to the south. The Dalí-chäi river is a rapid mountain-stream flowing from the north-west, in a deep ravine, through a mountainous, broken country. To the east of the ford is a steep and rocky ascent over hills sprinkled with juniper. From Amín-âbád to Gházán-chäi, also called the Arjamand (from a village of that name up the stream, the residence of the Governor of Fírúz-kúh), the road is good, except at the descent to the river, which is abrupt and rocky. The Gházán-chäi flows from the north; it is a considerable stream, but fordable at all seasons. The range of mountains, along the southern skirt of which the road runs from Demávend, here terminates; and a few miles beyond the river the peak of Demávend is seen bearing N. 66° W.

The village of Fírúz-kúh is situated at the base of a rock, along its northern and eastern sides. The rock of Fírúz-kúh is about 750 feet in height above the plain, being the termination of a range of hills running from the south along the western bank of the Hablah-rúd¶ river. The rock was formerly crowned by a fortress, the remains of which are yet visible. Tradition reports it to have been considered to be impregnable in former days, but it is commanded from several points. There are some fine pasture-lands in the vicinity of Fírúz-kúh, and the valley of the Hablah-rúd is richly cultivated.

The road from Fírúz-kúh into Mázanderán leads over a pass, about ten miles to the N.E. of that place. Near the summit of the pass is a large and well-built, though now ruined caravanseraï. On the 9th April the snow was deep on the summit of the ridge for about half a mile, and the road had only recently been opened. Immediately below the snow on the northern side is a forest of stunted oak, and the path runs in the bed of a small stream, the source of the Tálár river. This bed descending becomes a narrow ravine, and in the course of a few miles the oak gives place to

* Demávend village is found by late observations to be 6,000 feet above the sea.
—ED.

† Head of the dams or embankments.—F. S.

‡ Mount Victorious, or Blue Mountain.—F. S.

§ Mad-stream.—F. S.

|| Ruler's Town, or Peaceful Abode.—F. S.

¶ Rope-river.—F. S.

the juniper, elm, chesnut, beech, box, and rhododendron, springing from every crevice of the rocks. At thirty-two miles below the remains of a hill fortress, called by the people of the country the Castle of the *Dív Sefid*,* the ravine contracts to a narrow gorge which was formerly defended by a stone wall, the remains of which and of a gateway are still visible. In the vicinity of this place are a few patches of barley. One mile beyond *Surkh-rabát*† (a wooden hovel said to have been erected for the accommodation of the late *Sháh*) rice is cultivated. The road here runs through a dense thicket, and before we reached the *Puli Sefid*,‡ which is a well-built stone bridge over the *Tálár*, we came upon the commencement of this branch of *Sháh 'Abbás's* causeway. At *Puli Sefid* the road turns N.N.W., and continues along the eastern bank of the river, and as far as *Shírgáh§* is execrable. The causeway of *Sháh 'Abbás* has been a magnificent work, formed by a trench twenty feet deep and fourteen wide, cut in the side of the mountain, and then filled with large stones. In consequence of the incessant rains which fall in this part of the country, and of the want of all repair, this causeway has been nearly destroyed. In many parts the stones have been washed away, and their place having been supplied by logs and branches of trees, it is difficult even for mules to pass. *Zír-áb||* and *Shírgáh* are two groups of wretched, wattled huts, which are only inhabited during the season of rice-planting. At other times one or two villagers only remain to watch the fields, and sell provisions to passing muleteers. The bulk of the inhabitants reside higher up in the mountains.

Four miles beyond *Shírgáh* the road leaves the hills, and enters upon a fine level tract of country, covered with cultivation, pasturage, and wood. The road here diverges to the N.N.E. from the *Tálár* river. Between *'Alí-ábád¶* and *Sári*, fifteen miles in a N.E. direction, the causeway for a mile or two is in good repair, and leads through a natural avenue of magnificent trees. All traces of it are then lost until within three miles of *Sári*. Travellers are obliged to pick out a pathway for themselves through swamps, brushwood, and rice-fields, at some distance from the original line of road. Here and throughout *Mázanderán*, as in *Gilán*, we find the houses scattered in little groups, concealed among the woods, so that it is almost impossible to form any correct idea of the amount of the population.

Sári, the capital of *Mázanderán*, is surrounded by a ditch and a mud wall, flanked by pentagonal brick towers. The gateways

* The White Demon. Ouseley, iii. 231.—F. S.

† Red Resting-place. Ouseley, iii. 232.—F. S.

‡ White Bridge.—F. S.

§ Lion-place.—F. S.

|| Under river.

¶ *'Alí's Abode*.—F. S.

have fallen down, and roads have been broken through the wall in every direction. The state of the defences proves that the Sárians have for many years enjoyed security from without. The appearance of the town differs essentially from that of any other in Persia south of Elburz. The houses are built of burnt brick, and neatly tiled; some of the streets are well paved, and although marks of ruin and neglect are everywhere visible, Sári has something the appearance of an English village, or a small market-town. The place was nearly depopulated about four years ago by the plague.* The peak of Demávend bears S. 50° W. from Sári. The river Tejin† flowing from the S.E. passes about a mile to the eastward of Sári, and falls into the Caspian at Farah-ābād,‡ about twenty miles north of that town. The Tejin probably takes its rise in the same mountains as the Tálár. From Sári to Bálfurúsh the road returns S.W. to 'Alí-ābād, and thence strikes to the N.W. and N.N.W. The Tálár river is forded at the third mile from 'Alí-ābād. The causeway has there fallen to decay, and is described as being impassable. Travellers are obliged to make a circuit through a forest of magnificent oak, beech, and elm, interspersed with villages and rice-fields. The country becomes again open within two miles of the town.

Bálfurúsh, or more correctly Bárfurúsh (the mart of burdens), is an open town of considerable extent, built in the midst of a forest; the houses are scattered over a vast surface of ground, surrounded by gardens and cultivation. The population of Bálfurúsh is described as being considerably greater than that of Sári, but from the straggling condition of the town it is difficult to form an estimate of the number of houses.§ Bálfurúsh is slowly recovering from the devastations of plague and cholera, by which it has been of late nearly depopulated. It has a considerable trade, its bázár is good, and well supplied; its port, Mesh-hedi Ser,|| on the Caspian, being the place at which all Russian goods destined for Mázanderán are landed.

To the south of the town, at the distance of 500 yards, is the Bahru-l-Irem (or sea of Paradise),¶ a palace built by the late Governor of Mázanderán, Moḥammed Kulí Mirzá,** on an island of about half a mile in circumference, formed by a stream brought from the river Bábul, †† by means of ḡanáts, or subterranean canals.

* Sári contained from thirty to forty thousand inhabitants in 1822.—See Fraser's *Travels on the Shores of the Caspian*, p. 14.—Ed.

† Or Tejin. Ouseley, iii. 269.

‡ Abode of Pleasure, built by Sháh 'Abbás.

§ Mr. B. Fraser, in 1822, states it at 200,000, and considers it rather underrated. *Travels*, &c. p. 84.—Ed.

|| Place of Martyrdom of Ser, or evidence-place of the head.—F. S.

¶ The Garden of Irem, a sort of Paradise.—F. S.

** Prince Mohammed's Slave.—F. S.

†† Bahbul, Ouseley, iii. 291.

The island was formed by Sháh 'Abbás; but of the palace which he built upon it there are no remains, and the present building, although a modern one, is now a ruin. The surrounding water, at the broadest part about 300 yards, is now a stagnant pool, covered with reeds and rushes, the abode of numberless wild fowl. A wooden bridge, the perilous planks of which have parted company, connects the island with the main-land, and a square building, the gateway of the place, forms a kind of *tête de pont* to the position. A hard, level, excellent road, passable for wheeled carriages at all seasons, leads, in a north-by-west direction fifteen miles, from Bálfurúsh to Mesh-hedi Ser, on the Caspian. About four miles from the town the road comes upon the right bank of the river Bahbul, which it thence follows to the village of Mesh-hedi Ser, situated at the mouth of the river.

The Bahbul is about fifty yards broad in the vicinity of Bálfurúsh, and flows at this season with a current of not more than two miles an hour. It is said to be navigable for boats to within three or four miles of the town. Several small villages are scattered along each of its banks. Flax and cotton are here cultivated in large quantities. Goods are not conveyed by the river, which may be accounted for either by the excellence of the road, or by the ignorance of the people in the arts of boat-building, or by the trouble and delay of re-embarking and again disembarking the goods after they have once passed the custom-house. Iron and naphtha are the chief imports from Russia. Mesh-hedi Ser is a small village, at which the customs are collected; its houses are scattered on both sides of the river. Vessels of about 200 tons lie in an open roadstead, about three miles from the shore.

Retracing our steps to Bálfurúsh, the road, which is good and passable at all seasons, leads thence over a level, well-cultivated country, to A'mol, the general direction being south-west. Richly-wooded hills, backed by a lofty range of snowy mountains to the south, gradually close in to the distance of five to six miles towards the road. At about a mile from Bálfurúsh, the Bahbul is crossed by a bridge of masonry, of eight arches, in excellent repair, built by Mohammed Hasan Khán, grandfather of Fat-h-'Alí Sháh. The banks of the river at this spot are precipitous, the level of the country being thirty or forty feet above the stream.

The town of A'mol is without walls or defences of any kind. The river *Herhaz*,* a mountain stream, which at some seasons is said to be of considerable volume, runs through it, flowing from an opening in the hills immediately to the south of the town. It is crossed by a narrow but substantial bridge of masonry. A'mol is of less extent than Bálfurúsh, being considered, in point of

* Ouseley, iii, 295.

size and importance, the third town* in Mázonderán. It is easily approached from the sea.

On quitting A'mol for Párus the road leads in a south direction for eighteen miles along the western bank of the Herhaz, and at the sixth mile enters a valley 400 yards broad, through which the stream flows to the plain. A low range of wooded hills slopes to the water's edge on either side of the river. The road then runs along the bed of the stream, and at the eleventh mile, the valley closing in on both sides, the road ascends the left bank of the river by a narrow causeway, in some places not more than three or four feet broad, cut in steps on the side of the hill, and formed of layers of wood and stone placed on deep clay, the natural soil of the hill. This causeway, although lately repaired at considerable expense by one Hájí Sáleh, a merchant of A'mol, is almost impassable to horsemen and laden mules, and is fast falling into utter decay, numberless mountain streams and the incessant rains of the country having washed away in many places the materials of which it is made. The remains of an ancient and more substantial road, built up against the solid rock on the other side of the stream, are visible, and are probably the work of Sháh 'Abbás; but earthquakes and torrents have nearly destroyed it, and travellers prefer the modern causeway, although the distance by it is greater. At the thirteenth mile the road again descends to the bed of the stream, but occasionally runs over causeways similar to the one above described, but shorter in extent. The hills cease to be wooded within about two miles of Párus, a ruined and deserted building, which may once have been a caravanserai. Supplies, in small quantities, are procurable here, but with great difficulty.

Beyond Párus, still pursuing a southerly course, the road improves from the hardness of the rock over which it passes and from the dryness of the climate. It is, however, in some places only a narrow pathway, built upon or scooped out of the face of a perpendicular rock overhanging the torrent. Frequent accidents are said to occur from land-slips and fragments loosened by sudden thaws in the mountains. Between Párus and Karú † the stream is crossed in two places by wooden bridges, near the remains of stone ones, which have been swept away by the torrent. At Karú some caves, cut in the side of the hill, afford shelter to the traveller, but supplies are not to be procured.

Four miles beyond the caves of Karú the mountains close in on both sides of the Herhaz, which here runs in a deep and narrow channel between walls of perpendicular rock. The pathway, in

* In 1822 said to contain from thirty-five to forty thousand persons.—Fraser's Travels, p. 104.

† Kharoe, in J. Arrowsmith's map.—F. S.

some places not more than three feet broad, is scooped out of the face of the rock about 200 feet above the torrent. This strong natural defile, about a mile in length, is said to be the only entrance on the northern side into the district of Láriján. Beyond the defile the road improves, and after the twelfth mile, at Waneh, it turns S.W., and passes through several fine villages at the immediate south-eastern foot of Mount Demávend, forming the district of Amíri.* Before it reaches Ask,† eight miles farther, the stream is crossed in six places by wooden bridges. The village or town of Ask is said to contain a thousand or fifteen hundred houses, and is the principal of seventy-two villages, which form the district of Láriján. Its position is remarkable. The Herhaz river runs below the town through a deep and narrow channel of rock, which is crossed by a wooden bridge, the stone one having been swept away. From the water's edge the town is built on natural steps, rising to the height of several hundred feet, upon the south-eastern side of the mountain of Demávend, which forms one of the natural impassable barriers of the place. A chain of lofty mountains shuts in the valley on every side; the only ingress and egress to which is at the points where the river enters, and leaves the narrow basin, on the southern side of which is situated the town of Ask.‡

At a short distance from Ask the road leaves the river, and ascends the southern shoulder of Demávend. The ascent is steep and rocky. The point at which the road turns the shoulder of the mountain is about 1300 feet above the stream. This road is impassable in winter, when horsemen cannot approach Láriján in this direction, but foot passengers contrive to scramble over the rocks immediately above the bed of the river. The descent is comparatively easy, and much shorter than the ascent; but the road is execrable, being almost blocked up with masses of rock and half-frozen snow. Near the foot of the mountain the river is joined by a rapid stream called the Lár, flowing from the north-west. This is crossed by a stone bridge. The road thence ascends the bed of the Herhaz, which is here a mountain torrent; and for the last two or three miles before we arrive at Imám-Zádeh Háshim,§ which marks the summit of the pass,|| the steep and rocky pathway is scarcely practicable to a laden mule. The snow

* Commander's District.—F. S.

† Asek (J. Arrowsmith). Ouseley, iii. 329.—F. S.

‡ Ask is situated about 5900 feet above the level of the sea.—Ed.

§ The Imám's son Háshim.

|| This is the line of separation of waters flowing north to the Caspian, and south towards the plain of Persia, and may probably be estimated at 7000 feet above the sea, or 3000 nearly above Tehrán.—Ed.

was deep on the northern face of these mountains on the 21st of April.

From Imám-Zádeh Háshim the descent is gradual, the road takes a westerly direction, and after four miles turns to the south into a rich valley, with a fine stream running from the north, on which is situated the village of A'lí, also called Táki-zumurrud,* from a garden-palace, now in ruins, erected near the spot by Fat-h-'Alí Sháh. Near the village of Rúdehán, about six miles beyond 'Alí, the road joins that which leads from Jáj-rúd to the village of Demávend.

From the above description of the two most practicable routes, north and south, through the province of Mázanderán, the natural strength of the country may be estimated. The lofty chain of Elburz † is at present an impassable barrier on the south. Roads might, of course, be constructed with enormous labour and expense over the passes; but even the great causeway of Sháh 'Abbás, in its best days, could have been hardly practicable for heavy-wheeled carriages. The climate and soil of the wooded belt of hills which fringes the northern skirt of Elburz render the construction of roads difficult, and their permanence, without constant and expensive repair, almost impossible.

The route between Fírúzkúh and Keláteh,‡ in a general N.E. direction about one hundred miles, was followed in August, 1836. The road ascends the stream of Hablah-rúd for about eight miles in an easterly direction; the river then enters a defile and turns to the south. Quitting the Hablah-rúd the road passes over some fine pastures. Fourteen miles beyond Gúri Sefid § a road leads by a more northerly direction to Fúlád-Mahallah.|| From this point the general direction is eastward, over a steep pass into the valley of Sháh-mírzád, ¶ a large village with abundance of water. The road then turns to the N.E., and passes among low hills with pastures, and occasionally strips of cultivated ground, in the valleys. The villages of Fúlád-Mahallah, Surkh-deh, ** Chesh-meh 'Alí, †† and Keláteh, contain but twenty or thirty houses each. The road is in most places good, and practicable for wheeled carriages. Keláteh is about thirty miles west of Bastám, ‡‡ and the same distance S. by W. of Astarábád.

* The Emerald; Portico or Cupola.—F. S.

† Properly El-burj, the watch-tower.—F. S.

‡ Hill-top. *Kuláteh* signifies a hamlet.—F. S.

§ White Ass (Onager).—F. S. || Steel District.

** Red Village.

†† 'Alí's Spring.

¶ Prince Royal.

‡‡ Ouseley, iii. 226.